

REMARKS

Claims 64-67 are pending in this application.

In the Office Action dated September 9, 2004, the Examiner rejected claims 61-67. In particular, claims 61 and 62 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,086,378 to Kam et al. In addition, claims 63 and 64 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kam et al. in view of U.S. Patent No. 5,848,767 to Cappa. Also, claims 61-64 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,114,097 to Williams or U.S. Patent No. 4,593,870 to Cronkhite et al. in view of Kam et al. and Cappa. Finally, claims 65-67 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,223,067 to Hammamoto et al. in view of Kam et al. and Cappa.

Applicants have canceled claims 61-63. As explained below, Applicants respectfully disagree with the Examiner's rejection of claims 64-67 and request that those rejections be withdrawn. In addition, Applicants respectfully traverse the Examiner's rejections of claims 61 and 62 under 35 U.S.C. § 102(b) as being anticipated by Kam et al., as well as the Examiner's rejection of these claims under 35 U.S.C. § 103(a), as being unpatentable over Williams or Cronkhite et al. in view of Kam et al. and Cappa. In order to expedite prosecution of this application, however, Applicants have cancelled claims 61 and 62, as noted above, thereby rendering the Examiner's rejections moot.

Rejections of Claims 63 and 64 Under 35 U.S.C. 103(a)

Applicants respectfully disagree with the Examiner's conclusion that claims 63 and 64 are obvious either over Kam et al. in view of Cappa or over Williams or Cronkhite et al. in view of Kam et al. and Cappa. To establish a *prima facie* case of

obviousness, the MPEP requires that the Examiner demonstrate (1) some suggestion or motivation to modify the reference or combine reference teachings; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. MPEP § 2142 (8th Ed., revised May 2004). Because a *prima facie* showing of obviousness has not been demonstrated, Applicants respectfully request that the Examiner withdraw these rejections.

First, Applicant have canceled claim 63 in an effort to advance prosecution of this case. Accordingly, the Examiner's rejections of claim 63 are moot.

Second, with respect to claim 64, neither Kam et al. nor Cappa teach all the elements of this claim. Specifically, neither reference discloses or suggests a structure in which "the outer skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure." As the Examiner acknowledges, Kam et al. lacks "a core material located between the inner and outer skin." (Office Action at 2). In fact, Kam et al. discloses only a structure comprising a single skin and an isogrid panel in which the skin and isogrid panel are co-cured to integrally bond the isogrid panel to the skin. (Col. 5, l. 58 - Col. 6, l. 6). Nowhere does Kam et al. teach or suggest a structure "wherein the outer skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure" as recited in claim 64.

Similarly, Cappa also does not disclose a structure in which "the outer skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure." Cappa discloses only a structure with an inner and outer skin surrounding a core material in which the inner skin, outer skin, and core are cured to form the

structure. (Col. 2, l. 47-53). Therefore, since none of the references teach this limitation, the rejection should be withdrawn at least for this reason.

Applicants note that the Examiner argues that it would be obvious to combine the inner skin, outer skin and core structure of Cappa with the single skin and isogrid panel of Kam and to co-cure all of these elements to form a one-piece closed shape structure, but does not point to any suggestion in either reference for such combination. In fact, one of ordinary skill in the art would not have considered combining these references because the references actually teach away from Applicants' claimed invention.

Kam utilizes isogrid panels to provide stiffening across the entire skin structure. (Col. 5, l. 29-33). One of ordinary skill in the art would not have considered combining the core of Cappa with the structure of Kam because the isogrid panels of Kam provide stiffening across the entire structure. The use of core material would thus be redundant and unnecessary. Similarly, Cappa uses core throughout the entire structure, so the use of isogrid panels in that construction would also be redundant.

It is known that the use of frames provides greater stiffening than the use of core but at the expense of higher weight. As illustrated in Figures 21A-21C and 31B-31C of the present application, and consistent with an aspect of Applicants' invention, both structures may be provided in separate areas in the structure. As a result, a stronger frame may be provided in areas requiring greater stiffening (i.e., window openings and door openings), and a core may be provided in area where less stiffening is required, but lighter weight is preferred. Moreover, by co-curing all these structures to create a one-piece structure, the final structure is a stronger and lighter weight. Specification at ¶¶ 007-0015.

The Examiner has not pointed to any prior art reference that illustrates that any consideration of the use of a combination of co-cured frames, skins, and core in the same structure. In fact, the absence of any such teaching is further evidence that claim 64 is unobvious. Therefore, Applicants respectfully submit that claim 64 is allowable over the Examiner's proposed combination of references.

In addition, Applicants also respectfully disagree with the Examiner's conclusion that claim 64 is obvious over Williams or Cronkhite et al. in view of Kam et al. and Cappa. Neither Williams nor Cronkhite et al. teaches a one-piece structure, nor a structure in which "the outer skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure," as recited in claim 64. These references disclose only structures comprised of multiple parts, which include frames. Moreover, Williams and Cronkhite et al. are silent as to the co-curing of the frame, skins, and core to form the structure. Therefore, Williams and Cronkhite et al. fail to overcome the above-described deficiencies of Kam et al. and Cappa. Since, as discussed above, claim 64 is not obvious over Kam et al. and Cappa, the combination of all four of these references also does not render claim 64 obvious. Therefore, Applicants respectfully request that the rejections of claim 64 be withdrawn.

Rejections of Claims 65-67 Under 35 U.S.C. 103(a)

Applicants respectfully disagree with the Examiner's conclusion that claims 65-67 are obvious either over Hamamoto et al. in view of Kam et al. and Cappa because the Examiner has failed to establish a *prima facie* showing of obviousness. Specifically, none of these references teaches or suggests each and every element of claim 65. As discussed above, Kam et al. and Cappa do not teach a structure in which "the outer

skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure,” as recited in claim 64, nor do they provide any suggestion to create such a structure. This feature is also recited in claim 65.

As with Williams and Cronkhite et al., Hammamoto et al. teaches nothing more than a multiple-piece structure with frames. (Figures 1-4D). The fuselage of Hammamoto et al. does not include core material nor does the reference disclose a fuselage with inner and outer skins, core, and a frame all of which have been co-cured. Hammamoto et al., therefore, also does not teach a structure in which “the outer skin, inner skin, frame, and core material have been co-cured to form the one-piece closed shape structure,” as recited in claim 65. As noted above, Kam et al. and Cappa also fail to teach or suggest co-curing of, among other things, a core and a frame. Thus, Kam et al. and Cappa fail to cure the shortcomings of Hammamoto et al. Claim 65, therefore, is allowable and claims 66 and 67 are allowable at least due to their dependence from claim 65.

Moreover, Applicants also respectfully disagree with the Examiner’s conclusions regarding claims 66 and 67. The Examiner has not pointed to any reference that discloses either a co-cured “integrally formed flange” or a co-cured “wing attachment pocket.” The Examiner’s unsupported statement that inclusion of such structure would be obvious is insufficient to establish a *prima facie* case of obviousness. (Office Action at 4). Therefore, claims 66 and 67 are allowable for this reason also.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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